

**Remarks**

Entry of the amendments presented, reconsideration of the application and allowance of all pending claims are respectfully requested. Claims 1-17 are now pending.

In accordance with 37 C.F.R. 1.121(c)(1)(ii), a marked-up version of the amended claims is provided on one or more pages separate from the amendment. These pages are appended at the end of the Response.

Applicants respectfully traverse the rejection of claims 1-3 and 10-15 under 35 U.S.C. §102(e) as being anticipated by Schmidt et. al, U.S. Patent No. 6,006,229 (hereinafter Schmidt), to any extent deemed applicable to the claims presented herewith. Schmidt does not describe, teach or suggest all of the elements of applicants' claimed invention, and therefore it does not anticipate, nor suggest, the claimed invention.

In one aspect, applicants' invention comprises a method and apparatus for providing transactional management to computer files stored in a hierarchical file storage system, which supports multiple file formats. An object of applicants' invention is to facilitate the maintenance of the transactional integrity of files, which are stored in a hierarchical file system and may be of differing file-format types (page 12, line 29 through page 13, line 9). For example, the present invention allows the management of related files, one of which contains digital video data and one of which contains a textual description of the contents of the video file.

In contrast, Schmidt describes a transaction management means that prevents corruption of an Xbase database, wherein the database is stored as a set of Xbase files (col. 5, lines 37-41). Another object of the system described in Schmidt is to maintain proper transaction behavior while multiple clients, i.e. computers, are running Xbase-based and SQL-based application programs to simultaneously execute against the Xbase database (col. 5, lines 46-51). Therefore, applicants respectfully submit that Schmidt addresses different problems from the problems addressed by the present invention. For example, one difference is that the system described by Schmidt has as its objective the preservation of the integrity of a database stored in files of one

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particular format, namely Xbase files, whereas the present invention has as one of its objectives providing transaction management functionality to hierarchical file storage systems, which support the storage of multiple computer-file format types.

Further, applicants respectfully submit that a careful reading of Schmidt fails to uncover any teaching, suggestion, or implication of numerous features of their claimed invention. For example, the method recited in claim 1, as amended, includes the following elements: "hierarchical file system, wherein said hierarchical file system supports multiple file formats", "providing transaction program means arranged for a cooperation with said hierarchical file system", and "transaction program means implementing transactional functionality to effectuate changes to files of said hierarchical file system." None of these elements are taught or suggested by Schmidt.

The Schmidt system expressly applies to an Xbase file set. There is no discussion in Schmidt that the described system could be extended to a hierarchical file system, let alone a hierarchical file system that supports multiple file formats. Further, the transaction processor described in Schmidt receives Xbase commands that change the underlying Xbase files set (col. 7, lines 29-31), whereas, in the present invention, the transaction program means implements "transactional functionality to effectuate changes to files of the hierarchical file system." Still further, Schmidt describes transaction management means 31 that operates on an Xbase file set 5 via Xbase file execution means 33 in figure 4, whereas an aspect of the present invention provides an arrangement for cooperation between the transaction program means and hierarchical file system.

For at least the above-noted reasons, applicants respectfully submit that Schmidt does not describe or suggest a method for managing a hierarchical file system, comprising transactional functionality to effectuate changes to the files of the hierarchical file system, as recited by applicants. Reconsideration and withdrawal of the rejections to the independent claims (i.e. claims 1 and 13-15) are therefore respectfully requested.

The dependent claims are believed allowable for the same reasons as the independent claims from which they depend, as well as for their own additional characterizations. For example, claim 3 recites communication between the transaction program means and hierarchical file system via a protocol. The communication protocols described in Schmidt specifically address the communications between the client 25 and file server 18 over a network 14 via client network communications means 23 and server network communication means 27, respectively (col. 8, lines 5-12 and lines 33-37 and see figure 4), but Schmidt does not describe, teach, or suggest communication between transaction program means and a hierarchical file system via a protocol. Rather, Schmidt describes an Xbase transaction management means 31 and an Xbase file set 5 as residing in the file server in figure 4.

In regard to new claim 16, one aspect this claim is a method for managing a hierarchical file system wherein the files have different file formats. Schmidt does not describe, teach, or suggest transaction management involving files having different file formats. Rather, Schmidt narrowly describes a system for commit/rollback transaction processing against an Xbase file set only, i.e. a set of files which are all of the same type. Also, in claim 17, applicants recite that the files being changed by the transaction program means have unknown file formats. This is contrary to Schmidt, where the Xbase file set is a well known file format.

In addition to the above, applicants respectfully traverse the rejection of claims 4-8 under 35 U.S.C. §103(a) as unpatentable over Schmidt et al. U.S. Patent No. 6,006,229 in view of Coleman et al. U.S. Patent No. 6,032,154 (hereinafter Coleman). The patents cited in the Office Action do not teach or suggest, individually or taken together, all of the elements of the Applicant's claimed invention. Claim 4 depends on claim 3, which depends on claim 1. As discussed above with respect to claim 1, Schmidt does not describe, teach, or suggest all of the aspects of the invention recited in claim 1. Coleman has been cited in the Office Action because it teaches a data storage and management system for storing information gathered by a plurality of devices in a data acquisition system. It also teaches various data-gathering devices communicating to a central distribution automation system via several different protocols.

However, Coleman does not cure the deficiency of Schmidt as applied to claim 1 upon which claim 4 depends.

Further, as discussed above, Schmidt does not describe, teach, or suggest communication between transaction program means and hierarchical file system via a protocol as recited in claim 3. Coleman does not cure this deficiency. It merely describes the storage of an ordered list, which describes the communications protocol stack associated with each data-gathering device, in a memory (col.7, lines 18-25). This list is read from memory by a controller for the purpose of establishing an appropriate protocol stack for communication with a given data-gathering device (col. 7, lines 29-36).

Further still, applicants respectfully submit that neither Schmidt nor Coleman provides a motivation for one of ordinary skill in the art to add the missing elements to the proposed combination in order to cure this deficiency. Neither Schmidt nor Coleman mention the XDSM protocol. Coleman describes the use of ISO/OSI standard protocols and protocol stacks for communications between data-gathering devices and a central distribution automation system in a data acquisition system, but it provides no motivation for using the XDSM protocol for communications between a transaction program means and a hierarchical file system as recited in claim 4. For these reasons, withdrawal of the rejection of claim 4 is respectfully requested.

Dependent claims 5-8 are believed allowable for the same reasons as claim 4 on which they depend, as well as for their own additional characterizations.

Applicants respectfully traverse the rejection of claim 9 under 35 U.S.C. §103(a) as unpatentable over Schmidt et al. U.S. Patent No. 6,006,229 in view of Khalidi et al. U.S. Patent No. 5,561,799 (hereinafter Khalidi). Claim 9 depends on claim 1. Khalidi was cited in the Office Action for teaching a method of extending a file system by stacking new file system on top of an existing file system. However, Khalidi does not describe, teach, or suggest any of the aspects of claim 1 that are not described in Schmidt. Therefore, for the reasons set forth above, the patents cited in the Office Action do not describe, teach or suggest all of the elements of the

applicants' invention as recited in claim 9. Withdrawal of the rejection of claim 9 is therefore respectfully requested.

Should the Examiner have any questions concerning this response, the Examiner is invited to telephone applicants' undersigned representative. The application is believed to be in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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**Version With Markings To Show Changes Made**

**In the Claims:**

Claims 1 and 13-15 are amended and new claims 16 & 17 are added as follows:

1. (AMENDED) A method for managing a hierarchical file system comprising:

providing transaction program means arranged for a cooperation with said hierarchical file system, said transaction program means implementing transactional functionality to effectuate changes to files of said hierarchical file system, wherein said hierarchical file system supports multiple file formats.

13. (AMENDED) A computer system being able to access a hierarchical file system which is manageable by transaction program means according to a method of managing a hierarchical file system comprising:

providing transaction program means arranged for a cooperation with said hierarchical file system, said transaction program means implementing transactional functionality to effectuate changes to files of said hierarchical file system, wherein said hierarchical file system supports multiple file formats.

14. (AMENDED) A computer program for execution in a data processing system comprising computer program code portions for performing the steps of providing transaction program means arranged for a cooperation with [said] a hierarchical file system, said transaction program means implementing transactional functionality to effectuate changes to files of said hierarchical file system, wherein said hierarchical file system supports multiple file formats.

15. (AMENDED) A computer program product stored on a computer usable medium comprising computer readable program means for causing a computer to perform the method of managing a hierarchical file system comprising:

providing transaction program means arranged for a cooperation with said hierarchical file system, said transaction program means implementing transactional functionality to effectuate changes to files of said hierarchical file system, wherein said hierarchical file system supports multiple file formats.

16. (NEW) The method for managing a hierarchical file system of claim 1 wherein the files have different file formats.

17. (NEW) The method for managing a hierarchical file system of claim 1 wherein the transaction program means implements transactional functionality to effectuate changes to files of said hierarchical file system notwithstanding that said files have unknown file formats.